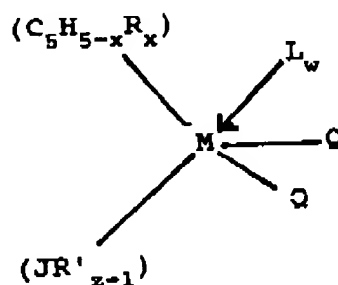


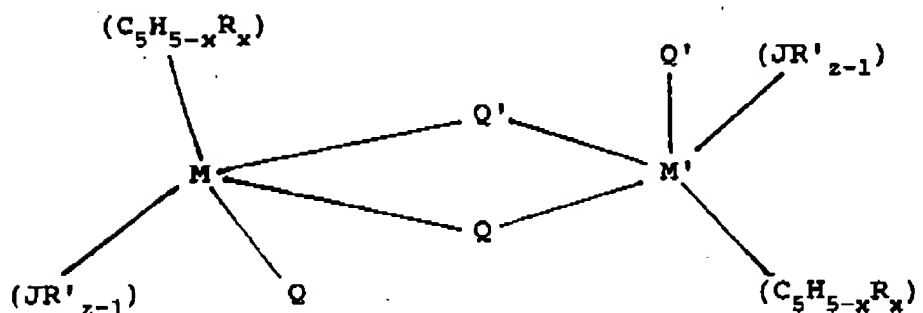
4. (canceled)
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28. (canceled)
29. (canceled)
30. (canceled)
31. (canceled)
32. (canceled)
33. (canceled)
34. (previously presented) A process for the polymerization of one or more olefins comprising conducting the polymerization in the presence of a catalyst system comprising:

(A) a Group IV B transition metal component of the formula:



or



wherein "M" is Zr, Hf or Ti;

$(C_5H_{5-x}R_x)$ is a cyclopentadienyl ring which is substituted with from zero to five substituent groups R, "x" is 0, 1, 2, 3, 4 or 5 denoting the degree of substitution, and each R is, independently, a radical selected from a group consisting of C_1 - C_{20} hydrocarbyl radicals, C_1 - C_{20} substituted hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom, C_1 - C_{20} hydrocarbyl-substituted metalloid radicals wherein the metalloid is selected from Group IV-A of the Periodic Table of Elements, and halogen radicals or $(C_5H_{5-x}R_x)$ is a cyclopentadienyl ring in which two adjacent R-groups are joined forming a C_4 - C_{20} ring to give a saturated or unsaturated polycyclic cyclopentadienyl ligand;

(JR'_{z-1}) is a heteroatom ligand in which "J" is an element with coordination number of three from Group V-A or an element with a coordination number of two from VI-A of the Periodic Table of Elements, each "R'" is, independently a radical selected from a group consisting of C_1 - C_{20} hydrocarbyl radicals, substituted C_1 - C_{20} hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom, and "z" is the coordination number of the element "J";

each "Q" is, independently, any univalent anionic ligand or two "Q"'s are a divalent anionic chelating ligand, provided that "Q" is different from $(C_5H_5-xR_x)$;

"L" is a neutral Lewis base where "w" is a number greater than 0 and up to 3;

"M'" has the same meaning as "M"; and

"Q'" has the same meaning as "Q"; and

(B) an alumoxane.

37. (New) The catalyst system of claim 34 wherein the heteroatom ligand group J element is nitrogen, phosphorous, oxygen or sulfur.
38. (New) The catalyst system of claim 34 wherein Q is a halogen or hydrocarbyl radical.
39. (New) The catalyst system of claim 34 wherein M is zirconium or hafnium.
40. (New) The catalyst system of claim 34 wherein the heteroatom ligand group J element is nitrogen.
41. (New) The catalyst system of claim 34 wherein the mole ratio of Al:M is from 10:1 to 20,000:1.
42. (New) The catalyst system of claim 34 wherein x is 0 or 1.

9/17/04
Date

Respectfully submitted,

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